



GNSS CORS Management Reforms in Korea

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Republic of Korea

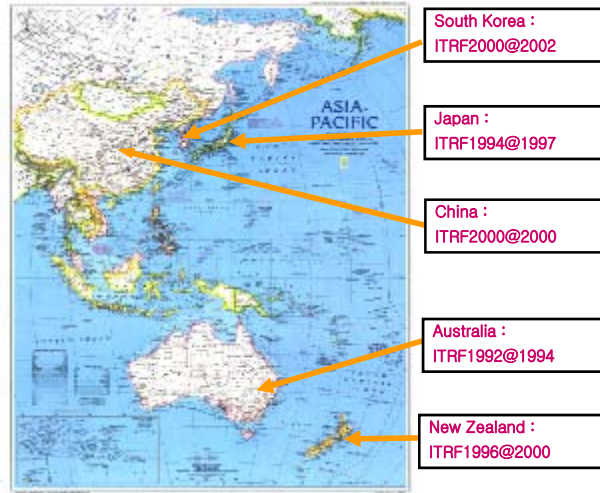
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 Background

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Reference Frame adopted in Asia and the Pacific



* UN PCGIAP Source : <http://unstats.un.org/unsd/METHODS/CARTOG/unrccap.htm>



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Korean Geodetic Datum 2002

New Korean datum was adopted on 1st January 2003

- In South Korea, all national control points are re-measured by GPS and then fully adjusted. In other countries, only primary points are re-measured and then used transformation tech.
- Details of Korean experiences of the nationwide GPS network adjustment have been presented, [Lee et al., FIG2008] [Jung et al., FIG2010].
- Now, the final version of KGD2002 coordinate set is officially opened after on december 2008.



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NSDI for e-Government

- NSDIs are most important in e-Government, but also e-Government needs location information for spatially enabled society.
- As an UN report on January 2010, South Korea ranked TOP 1 at Global E-Government Survey. Preparing a plan of integrated SDI and Location Based Services based on GNSS CORS.



E-Government Development Index
Top 20 Countries

Country	Index
Republic of Korea	0.8785
United States of America	0.8510
Canada	0.8448
UK and Northern Ireland	0.8147
Netherlands	0.8097
Norway	0.8020
Denmark	0.7872
Australia	0.7863
Spain	0.7516

E-Participation Index
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Country	Index
Republic of Korea	1.0000
Australia	0.9143
Spain	0.8286
New Zealand	0.7714
UK and Northern Ireland	0.7714
Japan	0.7571
United States	0.7571
Canada	0.7286
Estonia	0.6857

* UN Source : <http://www.unpan.org/egovernment.asp>



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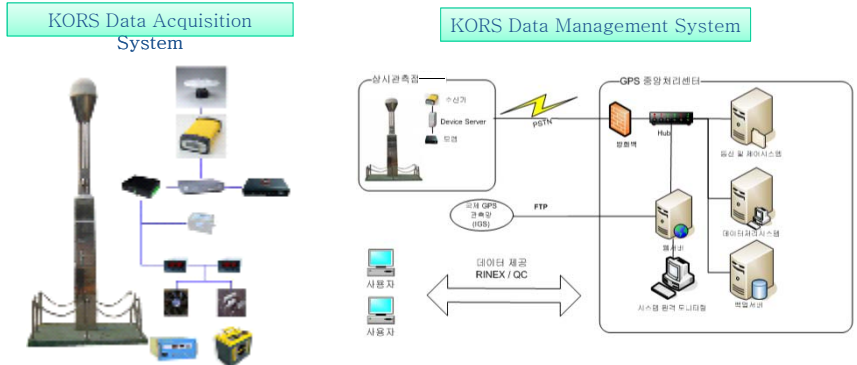
GNSS CORS Management Reform



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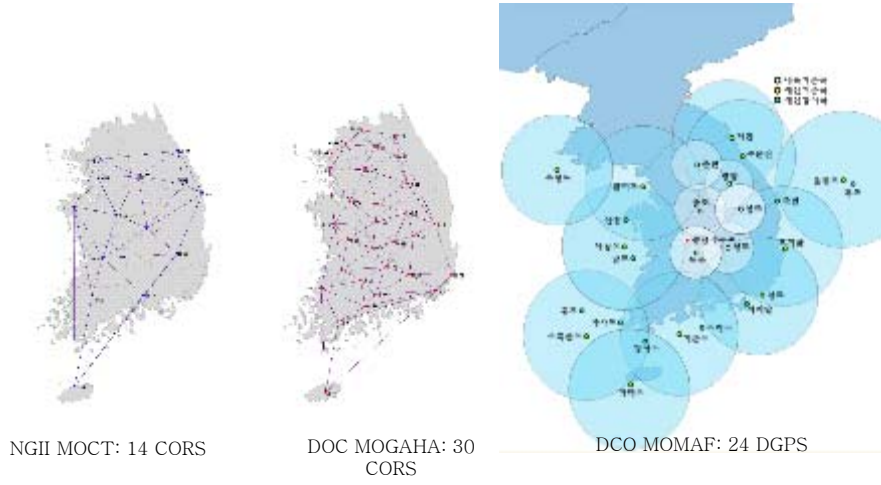


Korean CORS System



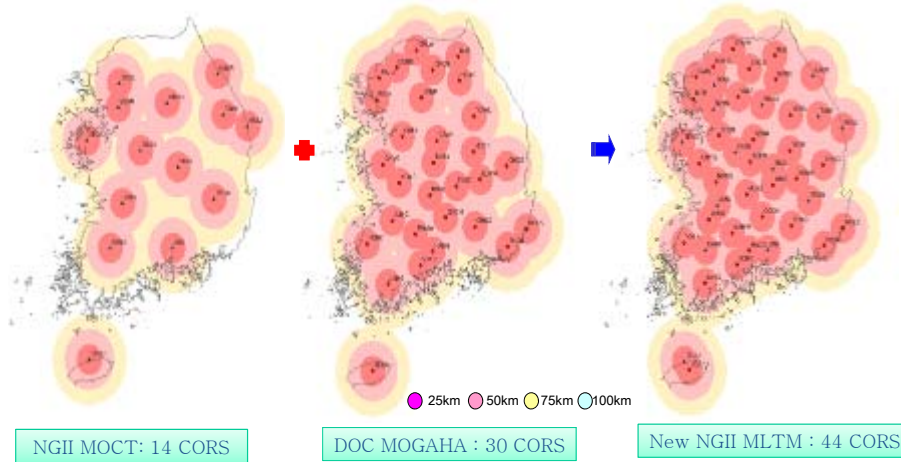
Korean CORS System_ before Feb 2008

■ Each 3 old systems for purpose, operations by 3 Institutions.



CORS Reform _ 1st Step (April 2008)

- **NGII systems and DOC systems for surveying/mapping, are integrated in April 2008. KORS network of 44 CORS composed.**

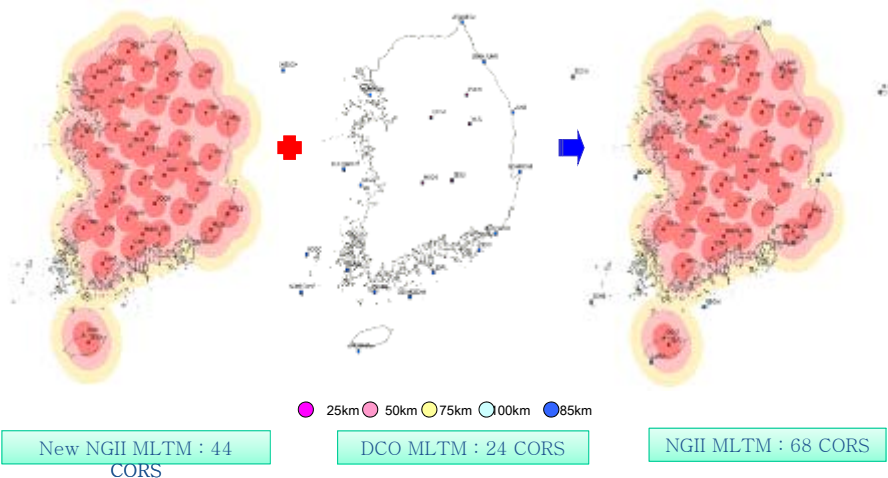


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CORS Reform _ 2nd Step (March 2009)

- **The KORS Systems are extended and linked to NDGPS system in March 2009.**

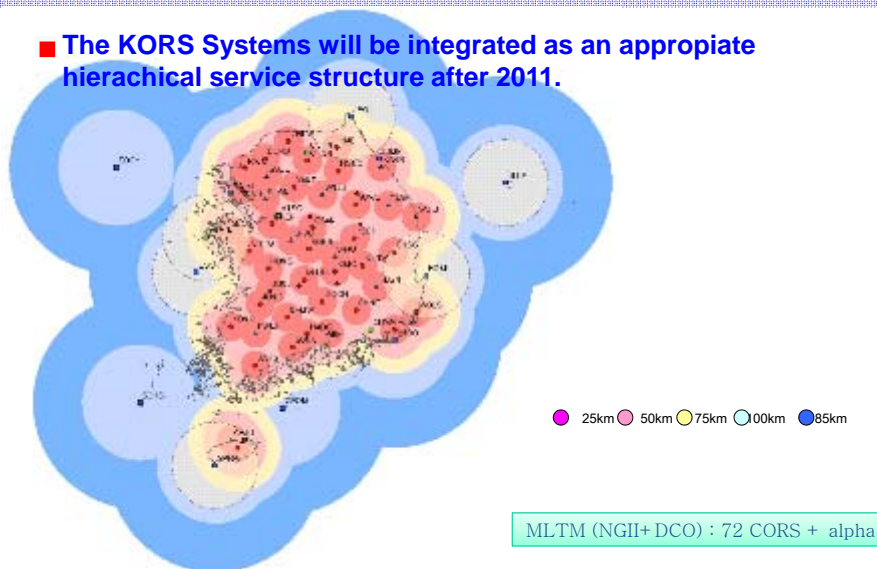


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CORS Reform _ 3rd Step (2011- plan)

- The KORS Systems will be integrated as an appropriate hierachical service structure after 2011.



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GNSS Services for e-Society

- In the future, the 3 types of KORS services will be provided by MLTM (NGII). The services are a key componet in e-Government and Spatially Enabled Society services.

The DGNSS KORS Service

- guaranteed accuracy between 0.5 and 2.0 meters
- availability of differential signal : 99%
- available for real-time measurements

The highly-accurate KORS Service

- guaranteed accuracy between 1 and 2 centimeters
- availability of differential signal : 99%
- available for real-time measurements

The Super-accurate KORS Service

- guaranteed accuracy below one centimeter
- available only for post-processing (no online capability)



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▶ Concluding Remarks



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Summaries

- **This presentation is related the Korean CORS (shortly KORS), specially focusing on institutional reforms for spatially enabled society services.**
- **In South Korea, ITRF2000(epoch 2002.0) adopted as a new Datum. Final version of KGD2002 coordinate sets are officially opened on december 2008. That is a basic componet of e-Government and spatially enabled society.**
- **As each 3 institutions, that is NGII, DOC, DCO, were operated GPS CORS systems, in February 2008, new Government have a strategic plan to integrate the 3 systems into MLTM (Ministry of Land, Transpot and Maritime).**
- **In the future, the 3 types of KORS services, DGNSS KORS service, highly-accurate KORS service, super-accurate KORS service will be provided by MLTM (NGII).**



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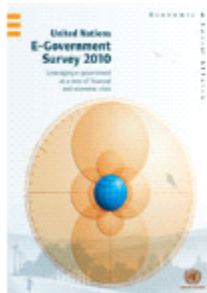




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Global E-Government Survey 2010



Publication Coming Soon

- Summary
- Table of Content
- Statistical Annex

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France	0.7510	Singapore	0.6857
Singapore	0.7476	Bahrain	0.6714
Sweden	0.7474	Malaysia	0.6571
Bahrain	0.7383	Denmark	0.6429
New Zealand	0.7311	Germany	0.6143
Germany	0.7309	France	0.6000
Belgium	0.7225	Netherlands	0.6000
Japan	0.7152	Belgium	0.5857
Switzerland	0.7136	Kazakhstan	0.5571
Finland	0.6967	Lithuania	0.5286
Estonia	0.6965	Slovenia	0.5143

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